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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/739,227	10/27/2003	Andrew J. Dosmann	MSE #2673	7335

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EXAMINER	
AKANBI, ISIAKA O	

ART UNIT	PAPER NUMBER
2877	

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/739,227	DOSMANN ET AL.	
	Examiner	Art Unit	
	Isiaka O. Akanbi	2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *27 October 2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement file 27 October 2003 has been entered and reference considered by the examiner.

Drawings

The examiner approves the drawings filed 27 October 2003.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3 and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurandt (4,838,697) in view of the Applicant's Admitted Prior Art (A.P.A).

As regard to claim 1, Kurandt discloses illumination source comprising a first monochromatic illumination source (6/7/8) comprising an associated illumination center-wavelength and associated illumination tolerance, wherein the source emits rays defining an illumination path and a bandpass filter (9/10) positioned in the illumination path, wherein the filter comprising an associated filter center-wavelength (col. 2, line 8-18). The reference of Kurandt is silent regarding to associated filter/illumination tolerance specifics because there is no reason for the dimensions since is well know for filter/LED to have a tolerance as evident by the applicant disclosure (page 3, par. 25). Therefore it would have been obvious to one having ordinary skill in the art at the time of invention to incorporate the teachings of Kurandt in conjunction with applicant indication of feature to design/provide filter tolerance that is no greater than approximately one-half the illumination tolerance and the filter center-wavelength that is approximately within a range from about the illumination center-wavelength minus the

illumination tolerance to about the illumination center-wavelength plus the illumination tolerance to meet the terms of the claims for the purpose of irradiating the object to be measured with accuracy. (see In Ex parte McGaughey, 6 USPQ2d 1334, 1337 (Bd. Pat. App. & Int.1988).

As to claims 2 and 8, according to claim 1 and 7, Kurandt discloses wherein the monochromatic illumination source (6/7/8) is an LED (col. 2, line 59-60) and the illumination center-wavelength is approximately 700nm (col. 2, line 65). The reference of Kurandt is silent regarding to the dimension of the illumination tolerance as be no greater than about 20nm, however the applicant discloses (page 3, par. 25) that this is a well known. Therefore it would have been obvious to one having ordinary skill in the art at the time of invention to incorporate the teachings of Kurandt in conjunction with applicant indication of feature to design/provide an illumination source with illumination tolerance that is no greater than about 20nm to meet the terms of the claims for the purpose of providing sufficient illumination to create a sufficiently bright image with accuracy. (see In Ex parte McGaughey, 6 USPQ2d 1334, 1337 (Bd. Pat. App. & Int.1988).

As to claim 3, Kurandt discloses everything claimed, as applied to claim 2 above, in addition illumination source comprising of a second illumination source (6/7/8) emitting rays defining another illumination path reflecting off of the filter (9/10) in a first direction, wherein the first illumination source and second illumination source are arranged relative to the filter such that rays from the first illumination source pass through the filter in the first direction, whereby the first and second illumination sources provide coaxial illumination (fig. 1).

As to claims 5, Kurandt discloses everything claimed, as applied to claim 3 above, in addition wherein the illumination path associated with the second illumination source (6/7/8) is relative to the illumination path positioned roughly 90 degrees associated with the first illumination source (6/7/8)(fig. 1).

As to claims 6 and 7, Kurandt discloses everything claimed, as applied to claim 1 above, in addition Kurandt discloses a second illumination source emitting rays defining another illumination path reflecting off of the filter ((9/10) in a first direction, wherein the first illumination source is an LED and the associated illumination center-wavelength is approximately within a range from about 680nm to about 960nm, the second illumination source is an LED comprising an associated illumination center-wavelength approximately within a range from about 510nm to 740nm and the first illumination source and the second illumination

source are arranged relative to the filter such that rays from the first illumination source pass through the filter in the first direction (col. 2, line 63-65).

Claim 4 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurandt (4,838,697) as applied to claim 3, in view of the examiner Official Notice.

As to claims 4, Kurandt discloses everything claimed, as applied to claim 3 above, the reference of Kurandt is silent with regard to wherein the second illumination source LED comprising an associated center-wavelength of approximately 940nm. The examiner wishes to take Official Notice of the fact that the use of LED with an associated center-wavelength of approximately 940nm would have been well known, as evident by Lovejoy et al. (5,429,129). It would have been obvious to one having ordinary skill in the art at the time of invention to use LED/light having an associated center-wavelength of approximately 940nm for the purpose of irradiating the object to be measured with accuracy.

Claims 9-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurandt (4,838,697) in view of Henderson et al. (3,910,701)

Regarding to claims 9, 14 and 24, Kurandt discloses a readhead comprising of a first LED (6/7/8) having a first center-wavelength associated therewith and being adapted to emit a first path of light, a second LED (6/7/8) having a second center-wavelength associated therewith and being adapted to emit a second path of light intersecting the first path of light at an intersection (fig. 1), a beam splitter (9/10) positioned at the intersection and having a bandpass filter associated therewith, wherein the first LED, the second LED and the beam splitter are arranged to provide coaxial illumination in a first direction, at least a portion of the coaxial illumination is reflected off a sample creating diffuse reflected light and the readhead further comprising a detector (3) located to receive at least a portion of the diffuse reflected light (fig. 1)(col. 2, line 53-63). The reference of Kurandt is silent regarding to the dimensions/degrees of the filters tolerance and the bandpass filter comprising a relatively narrow bandpass as compared to a bandwidth associated with the first LED. The reference of Henderson teaches of reflectance measurements devices that can measure the amplitude of light-reflectance at any selected narrow band of light (figs. 3, 5 and 6)(col. 2, line 11-16). Therefore it would have been

obvious to one having ordinary skill in the art at the time of invention to provide/design the bandpass filter that comprises a relatively narrow bandpass as compared to a bandwidth associated with the LED for the purpose of selecting wavelength ranges in which the spectral lines of interest fall, Further it would have been obvious to one having ordinary skill in the art at the time of invention to incorporate the teachings of Kurandt in conjunction with applicant indication of feature to design/provide readhead with a various tolerance to meet the terms of the claims for the purpose of providing sufficient illumination to create a sufficiently bright image with accuracy. (see In Ex parte McGaughey, 6 USPQ2d 1334, 1337 (Bd. Pat. App. & Int.1988).

As to claims 10, 16, 19, 22, 26 and 28-32, Kurandt and Henderson disclose everything claimed, as applied to claims above, in addition Henderson discloses variety of wavelengths (i.e. 100nm) and any selected narrow band (i.e. 25 nm)(col. 2, line 11-16)(col. 6, line 18-22).

As to claim 11, according to claim 9, Kurandt and Henderson disclose everything claimed, as applied to claim 9 above except for is silent regarding wherein the first and second LEDS have associated tolerances not greater than 20nm and the bandpass filter has an associated tolerance of not greater than 10nm, however the applicant discloses (page 3, par. 25) that this is a well known. Therefore it would have been obvious to one having ordinary skill in the art at the time of invention to incorporate the teachings of Kurandt and Henderson in conjunction with applicant indication of feature to design/provide readhead with the first and second LEDS that have associated tolerances not greater than 20nm and the bandpass filter that has an associated tolerance of not greater than 10nm to meet the terms of the claims for the purpose of providing sufficient illumination to create a sufficiently bright image with accuracy. (see In Ex parte McGaughey, 6 USPQ2d 1334, 1337 (Bd. Pat. App. & Int.1988).

As to claims 12, 13, 23 and 25, Kurandt and Henderson discloses the claimed invention, in addition Kurandt and Henderson discloses the readhead comprising a light-scattering section upstream of the detector, wherein the light-scattering section comprising plurality of steps formed at predefined angles greater than 90 degrees and wherein the predefined angles at which the steps are formed are not less than approximately 100 degrees (fig.1)(figs. 3, 5 and 6).

As to claims 15, 21 and 32, the reference of Kurandt and Henderson teaches of the features of claim 15 and 20, comprising filter, however the reference of Kurandt and Henderson is silent regarding the difference in tolerance, however it has been held that the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. Therefore it would have been obvious to one having

ordinary skill in the art at the time of invention to use filters with different/variety of tolerance for the purpose of providing interval within the desired tolerance and which will provide sufficient illumination to create a sufficiently bright image with accuracy. (see In re Aller, 105 USPQ 233).

As to claims 17 and 18, Kurandt and Henderson discloses everything claimed, as applied to claim 1 above, in addition Kurandt discloses wherein at least light from the first LED is filtered by the filter and wherein light from the second LED is reflected off the filter to provide the coaxial illumination with light from the first LED passing through the filter (fig.1)(col. 2, line 59- col. 3, line 1-15).

As to claim 27, Kurandt and Henderson discloses everything claimed, as applied to claim 1 above, in addition Kurandt discloses the beam splitter (9/10) comprising a bandpass filter having a filter center-wavelength and a filter tolerance associated therewith and the filter center-wavelength and filter tolerance are selected to separate wavelength associated with the first LED from wavelengths associated with second LED such that the light in the beam from the first LED does not have wavelengths equal to wavelengths of light in the beam from the second LED (fig. 1)(col. 2, line 64- col. 3, line 1-15).

Additional Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references listed in the attached form PTO-892 teach of other prior art illumination source readhead that may anticipate or obviate the claims of the applicant's invention.

Conclusion

Official Notice

Several facts have been relied upon from the personal knowledge of the examiner about which the examiner took Official Notice. Applicant must seasonably challenge well known statements and statements based on personal knowledge. In re Selmi, 156 F.2d 96, 70 USPQ 197 (CCPA 1946); In re Fischer, 125 F.2d 725, 52 USPQ 473 (CCPA 1942). See also In re Boon, 439 F.2d 724, 169 USPQ 231

(CCPA 1971) (a challenge to the taking of judicial notice must contain adequate information or argument to create on its face a reasonable doubt regarding the circumstances justifying the judicial notice). If applicant does not seasonably traverse the well-known statement during examination, then the object of the well-known statement is taken to be admitted prior art. In re Chevenard, 139 F.2d 71, 60 USPQ 239 (CCPA 1943). A seasonable challenge constitutes a demand for evidence made as soon as practicable during prosecution. Thus, applicant is charged with rebutting the well-known statement in the next reply after the Office action in which the well-known statement was made. See MPEP 2144.03, paragraphs 4 and 6.

Fax/Telephone Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isiaka Akanbi whose telephone number is (571) 272-8658. The examiner can normally be reached on 8:00 a.m. - 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley Jr. can be reached on (571) 272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Isiaka Akanbi
March 8, 2006

Gregory J. Toatley, Jr.
Supervisory Patent Examiner